

Work Order ID 72042

Monday, July 18, 2011 12:58:00 PM



Page 1

Item ID: D3688-5

Accept



Setup Start



Revision ID:

Stop



Item Name: STUD

Start Date: 7/18/2011 Start Qty: 4.00

Cust Item ID:

Required Date: 7/25/2011 Req'd Qty: 4.00

Customer:

Reference:

Approvals:

Process Plan:

Date: 11-07-18 Tooling:

Date:

Run Start



QC:

Date: SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D3688

Rev BC 11.09.07

100



BAND SAW

0.00

Bandsaw

Memo

0.00

Jeaspa Bandsaw

DO NOT USE CHOP SAW

☐ Cut blank 12.020" long

11/9/15

4 φ

PIC

110



DOOSAN LATHE

0.00

Doosan

Memo

0.00

Doosan Lathe

1-Turn as per Folio FA719 Rev: B & Dwg D3688 Rev: B ☐ 2-Deburr
per dwg D3688
3-Check .625" bore with DT9530 GO/NO GO Gauge

11/9/16

3

120



QC2- Inspect parts off machine FAI/FAIB

0.00

QC

Memo

0.00

Quality Control

11/9/16

3

Dart Aerospace Ltd

W/O: 72042		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D8688-5 PAR #: N/A Fault Category: Machining NCR: (Yes) No DQA: A Date: 11.10.25
 Resolution: Scrap Disposition: SCRAP QA: N/C Closed Date: 11/10/25

NCR: 11-925		WORK ORDER NON-CONFORMANCE (NCR) 1103.07 x 1						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
11/9/6	110	Insert chipped during machining - Scraped Part. Rc Process. (chipped during machining)	W 11-29-07	Scrap + Destroy Qty = 1	W 11/9/5	W 11/09/12	W 11-09-07	S 11/10/20

NOTE: Date & initial all entries

Work Order ID 72042

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Item ID: D3688-5

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Item Name: STUD

Start Date: 7/18/2011 Start Qty: 4.00



Cust Item ID:

Required Date: 7/25/2011 Req'd Qty: 4.00



Customer:

Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

170

QC8- Inspect parts - second check

0.00

and 11/08/12

QC

Memo

0.00

*3**0*

Quality Control

100% CHECK, CHECK ALL DIMENSIONS AND THREAD FIT

180

PURCHASING

0.00



Purchasing

Memo

0.00

11-10-06

Purchasing

Issue P/O: *15101* ☐ LPI Per ASTM 1417 LEVEL
2 ☐ Certificate of conformaty is required

190

Receive & Inspect for Damage & Mat'l Certs

0.00



Packaging

Memo

0.00

Rec'd 10/15 03

Packaging

Ensure certificate of conformity is attached

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 72042

Monday, July 18, 2011 12:58:00 PM



Page 3

Item ID: D3688-5

Accept



Setup Start



Revision ID:

Stop



Item Name: STUD

Start Date: 7/18/2011 Start Qty: 4.00



Cust Item ID:

Required Date: 7/25/2011 Req'd Qty: 4.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
200	QC5- Inspect part completeness to step on W/O	0.00							
QC	Memo	0.00							
Quality Control									
210	Identify as per dwg & Stock Location: <u>SFGA</u>	0.00							
Packaging	Memo	0.00							
Packaging									
220	QC21- Final Inspection - Work Order Release	0.00							
QC	Memo	0.00							
Quality Control									

(3x)

SP 11-09-13:

SP 11-10-19:

11/10/19

me

11-10-19

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Monday, July 18, 2011 12:58:07 PM

Page 1

Work Order ID: 72042

Parent Item: D3688-5

Parent Item Name: STUD




Start Date: 7/18/2011

Required Date: 7/25/2011

Start Qty: 4.00

Required Qty: 4.00

Comments: Rev:A New Issue 08-01-29 JLM Veriified By:EC
 IPP Rev:B Material Change 09-01-07 JLM Verified By:EC
 IPP Rev:C Added note on Step 2 09-01-26 JLM Verified By:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M174PH-H900R1.000		Purchased	No			100	f	32.7000	1.087	4.576842			
													
17-4SS H900 ROUND BAR 1.00													
						<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>			
						MAT030		32.7					
						117445		32.7					



SA 11/25

4.5 Lt

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order:	72042
Description: Stud		Part Number:	D3688-5
Inspection Dwg: D3688 Rev: C		Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.695	+/-0.010	0.690	/		SA 9	
0.625	+0.004/-0.000	0.626	/			
1.25	+0.000/-0.03	1.23	/			
118°	0.5°	118°	/			
R0.03	+/-0.030	R.03	/			
0.11 Ref	+/-0.030	0.11	/			
90°	0.5°	90°	/			
Ø0.189	+0.005/-0.001	0.191	/			
1.31	+/-0.030	1.31	/			
1.65	+/-0.030	1.65	/			
0.870	+0.000/-0.010	0.865	/			
Ø0.659	+0.000/-0.015	0.654	/			
11.920	+/-0.015	11.921	/			
2.90	+/-0.030	2.90	/			
3/4-16UNF-2A	N/A		/			
0.075 x 45°	+/-0.010 x 0.5°	0.075 x 45°	/			
0.370	+0.000/-0.010	0.365	/			
Ø0.189	+0.005/-0.001	0.191	/			
R0.25	+/-0.030	R.25	/			
R0.50	+/-0.030	R.50	/			
0.20	±0.030	0.230	/			

Measured by:	SA	Audited by:	SA	Prototype Approval:	N/A
Date:	11/9/12	Date:	11/09/12	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	09.05.11	New Issue	KJ	
B	09.11.04	Dwg Rev updated	KJ	

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

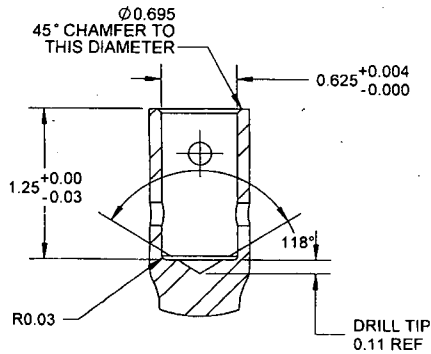
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

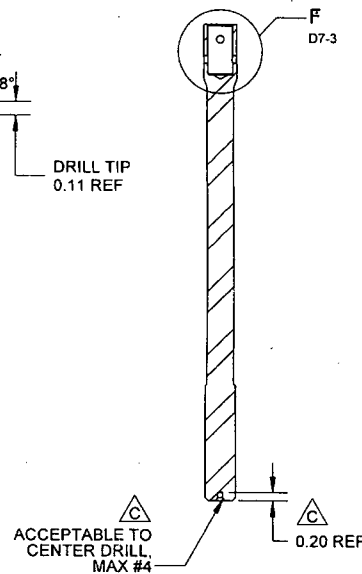
NOTE: Date & initial all entries

SHOP COPY
RETURN TO
ENGINEERING

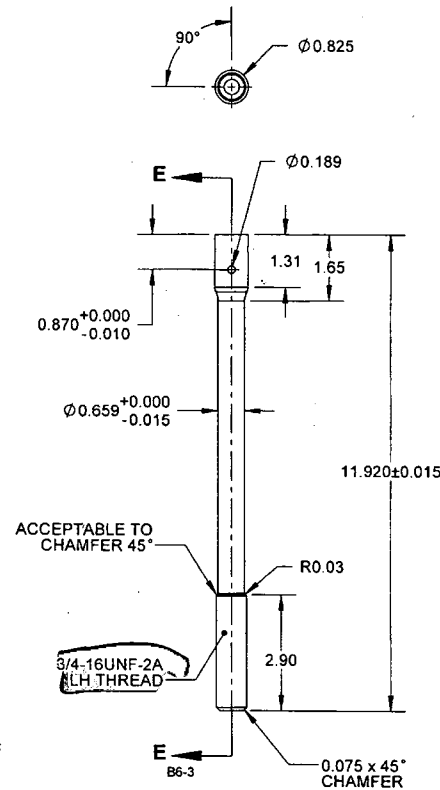
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 72042



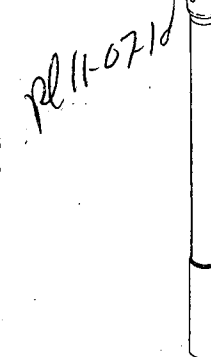
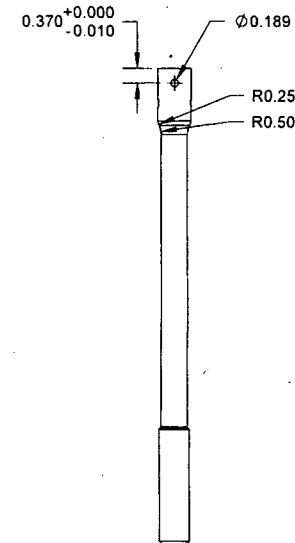
DETAIL F
SCALE 3X
D6-3



SECTION E-E
D4-3



D3688-5 STUD



RELEASED
2009-09-22

- NOTES:**
- 1) MATERIAL: 17-4PH STAINLESS STEEL ROUND BAR PER AMS 5643 H-900 CONDITION
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: NONE
 - 7) WEIGHT: 1.26 lb
 - 8) LPI PER QSI 038 4.1.1 (ASTM E1417 LEVEL 2)

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. C
MFG. APPR.	<i>[Signature]</i>	D3688	SHEET 3 OF 4
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	STUD	NTS
DATE	09.09.09	COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

Dart Aerospace Ltd

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LIQUID PENETRANT TEST REPORT

P- 05630

CLIENT DART AEROSPACE DATE OCT-05-2011 PAGE 1 OF 1
ATTENTION LINDA/CHASTALE/IAN/MATT ACUREN JOB NO. 188-11-02189
ADDRESS 1270, ABERDEEN ST. PO/VO NO. 15101
HAWKES BURY, ON WORK LOCATION AS ADDRESS
PROJECT PT -> WET FLUORESCENT LIQ. PENETRANT ON "4 CROSS TUBES", "7 STUDS", "9 STUDS"
ITEM(S) EXAMINED SEE BELOW

JOB DESCRIPTION PROCEDURE NO. LT-002 REV./DATE 2007 TECHNIQUE NO. LT-002 REV./DATE 2007
PART NO. MATERIAL ALUMINUM 1/2" THICKNESS
SCOPE PERFORMED A WET FLUORESCENT LIQ. PENETRANT INSPECTION ON 100% OF THE EXTERNAL SURFACES ON ITEMS MENTIONED BELOW

TEST DETAILS
METHOD ☒ FLUORESCENT ☐ VISIBLE ☒ WATER WASH ☐ SOLVENT REMOVABLE ☐ POST EMULSIFIED
FAMILY BRAND MAGNAFLUX BLACK LIGHT S/N 13798 ☒ OUTPUT > 1000 μ W/cm² ☐ AMBIENT < 2 fc
PENETRANT ZL-67 MINIMUM DWELL TIME 10 MIN. LIGHTING EQUIP. ☐ FLASHLIGHT ☐ TROUBLELIGHT ☐ OUTPUT > 100 fc @ SURFACE
PENETRANT REMOVER H2O MINIMUM DRY TIME > 10 MIN. OTHER
DEVELOPER SKD-52 MINIMUM DWELL TIME 10 MIN. LIGHT METER S/N CAL DUE DATE AUG-2012
DEVELOPER TYPE ☒ NON AQUEOUS ☐ AQUEOUS ☐ DRY

TEST SURFACE
SURFACE CONDITION ☐ AS GROUND ☐ AS WELDED ☐ MACHINED ☐ SHOT BLASTED ☒ CLEAN BARE METAL
SURFACE TEMPERATURE ☐ < -4°C/20°F ☐ -4°C/20°F TO 10°C/50°F ☒ 10°C/50°F TO 52°C/125°F ☐ > 52°C/125°F

RESULTS- (☐ METRIC ☐ IMPERIAL)

ITEM ID	DESCRIPTION	STATUS
1	CROSSTUBE W.O.I.D 71103	✓
2	71109	✓
3	71195	✓
4	71196	✓
5	SLEEVE (7) W.O.I.D 72117	✓
6	STUDS (6) W.O.I.D 72045	✓
7	STUDS (3) W.O.I.D 72042	✓

NO RELEVANT INDICATION WAS DETECTED AS PER APPLICABLE STANDARDS.

11-10-06

Scope of Services
The agreement of Acuren Group Inc. to perform services extends only to those services provided for in writing. Under no circumstances shall such services extend beyond the performance of the requested services. It is expressly understood that all descriptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group Inc. based on information and assumptions supplied by the owner/operator and are not intended nor can they be construed as representations or warranties. Acuren Group Inc. is not assuming any responsibilities of the owner/operator and the owner/operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the data or other information provided to Acuren Group Inc. In no event shall Acuren Group Inc.'s liability in respect of the services referred to herein exceed the amount paid for such services.

Standard of Care
In performing the services provided, Acuren Group Inc. uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or implied, is made or intended by Acuren Group Inc.

SIGNATURES

CLIENT REPRESENTATIVE Matthew Chudach DTR # E44758
TECHNICIAN (SIGNATURE): [Signature] SIGNATURE
NAME (PRINT): JES DESROSIER
CGSB LEVEL 2 SNT LEVEL 2 CGSB REG. NO. 3049
CGSB LEVEL 1 SNT LEVEL 1 CGSB REG. NO. 1
REPORT REVIEWED BY: [Signature] NAME INITIALS